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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/623,801	11/17/2000	Dominique Plec	33808F111	6820
7590 12/14/2007 Smith Gambrell & Russell Beveridge Degrandi Weilacher & Young Intellectual Property Group Suite 800 1850 M Street N W Washington, DC 20036			EXAMINER LAWRENCE JR, FRANK M	
			ART UNIT 1797	PAPER NUMBER
			MAIL DATE 12/14/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/623,801

Applicant(s)

PLEE, DOMINIQUE

Examiner

/Frank M. Lawrence/

Art Unit

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date ____.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 5-9 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claim 5 recites the limitations "the adsorption pressures" and "the desorption pressures" in line 2. There is insufficient antecedent basis for this limitation in the claim.
4. Claim 6 recites the limitation "the adsorbent bed" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim.
5. Claim 8 recites the limitation "the gas flow" in line 2. There is insufficient antecedent basis for this limitation in the claim.
6. Claim 9 recites the limitation "the contaminated gas flow" in line 3. There is insufficient antecedent basis for this limitation in the claim. Also, it is suggested that "NaLSX type" should be used to describe the zeolite in claims 1, 8 and 9 for clarity because "type" is accepted and appropriate and will not be considered indefinite. Claims 7 and 12 are indefinite for depending from a rejected parent claim.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the European reference (EP 0718024 A2) in view of the European reference (EP 0294588 A2).

9. EP '024 discloses a process for removing carbon dioxide from an air stream, comprising removing water with an alumina drying agent, then subjecting the dried air to a PTSA cyclic adsorption system containing a low sodium X zeolite (page 2, lines 39-57, page 3, lines 8-49).

The zeolite has a silicon to aluminum atomic ratio of 1.0-1.15 and can have substantially all of its exchangeable cations sodium ions or may have potassium ions. Adsorption can be carried out at 30-60° C and 1-10 bar, and desorption can take place at 10-200° C and 100-2000 millibar (page 3, lines 50-58). The instant claims differ from the disclosure of EP '024 in that the zeolite is agglomerated with a binder with a residual inert binder content of less than or equal to 5%.

10. EP '588 discloses a zeolite X for removing carbon dioxide that is formed into pellets with 1-40% by weight of clay binders (page 2, lines 35-37, page 2, line 51 to page 3, line 2). It would have been obvious to one having ordinary skill in the art at the time of the invention to pelletize the zeolite of EP '024 in order to provide an adsorption bed having a low pressure drop due to open spaces that exist between zeolite pellets, and to use a low inert binder content in order to maximize the amount of adsorbent available for air treatment.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional references listed on the attached PTO-892 form disclose zeolites for gas treatment.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Frank M. Lawrence/ whose telephone number is 571-272-1161. The examiner can normally be reached on Mon-Thurs 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Frank M. Lawrence/
Primary Examiner
Art Unit 1797